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BAG SECURITY

J-component review

By

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Submitted to

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in partial fulfilment of the course of

Microcontroller and its applications

ECE3003-L43+L44

INTRODUCTION:

Bag security is a device which gives an indication for the user whenever the Bag zip is opened when it is carrying. It also displays the number of books in the bag which is useful for the kids below 10 years for verifying whether they are carrying the same number of books they bought from the home.

CIRCUIT DIAGRAM:

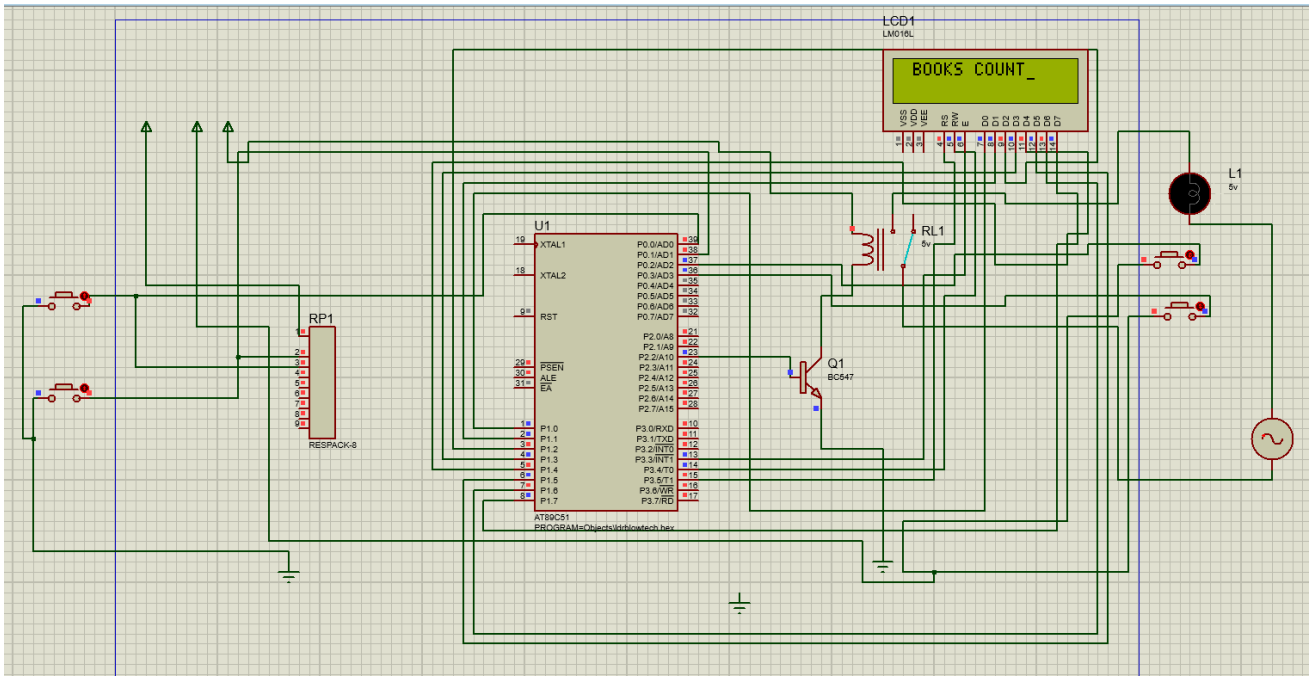
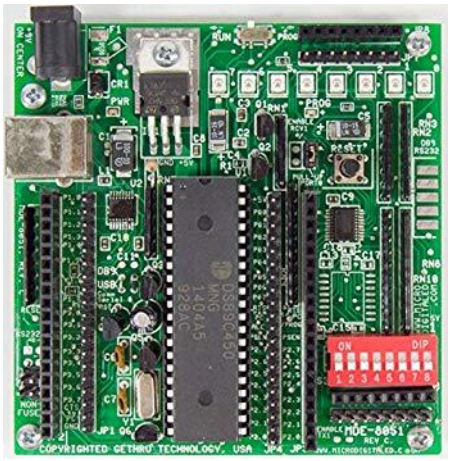


Fig: This shows the connections for our project left side two switches are IR sensor and left side two switches are one switch and another is IR sensor

COMPONENTS USED:

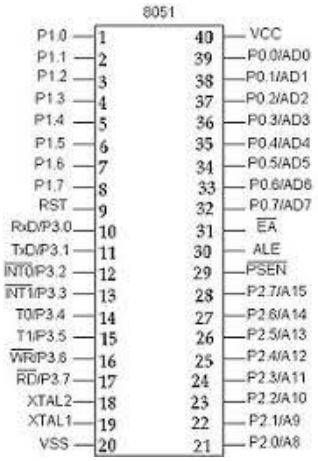
- **Microprocessor development board:**

A microprocessor development board is a printed circuit board containing a microprocessor and the minimal support logic needed for a computer engineer to become acquainted with the microprocessor on the board and to learn to program it. It also served users of the microprocessor as a method to prototype applications in products. Unlike a general-purpose system such as a home computer, usually a development board contains little or no hardware dedicated to a user interface. It will have some provision to accept and run a user-supplied program, such as downloading a program through a serial port to flash memory, or some form of programmable memory in a socket in earlier system



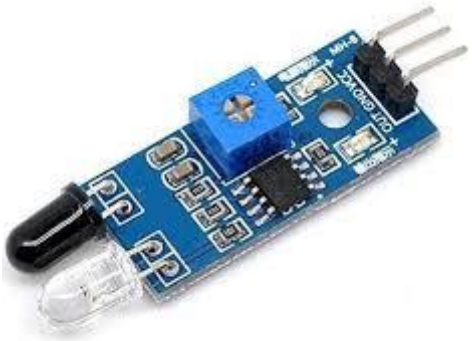
- **AT89C51:**

Based on the Intel 8051 core, the AT89 series remains very popular as general purpose microcontrollers, due to their industry standard instruction set, their low unit cost, and the availability of these chips in DIL (DIP) packages.



- **IR SENSOR:**

IR Sensors work by using a specific light sensor to detect a select light wavelength in the Infra-Red (IR) spectrum. By using an LED which produces light at the same wavelength as what the sensor is looking for, you can look at the intensity of the received light. When an object is close to the sensor, the light from the LED bounces off the object and into the light sensor. This results in a large jump in the intensity, which we already know can be detected using a threshold

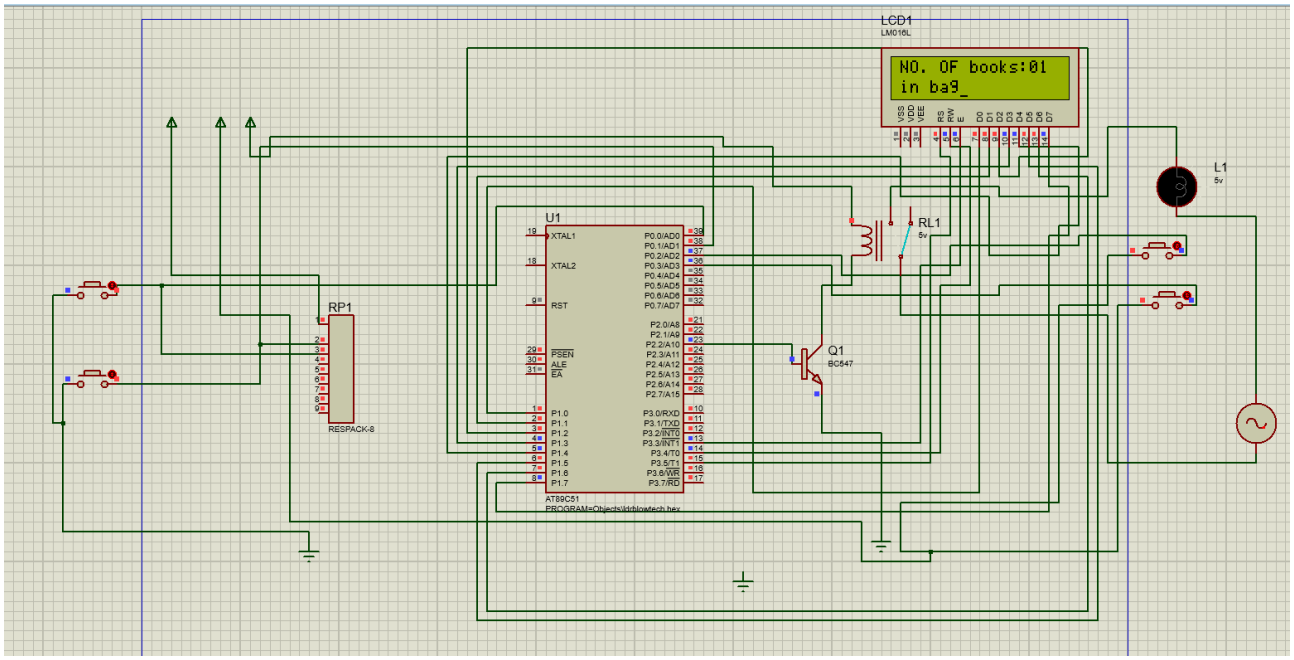


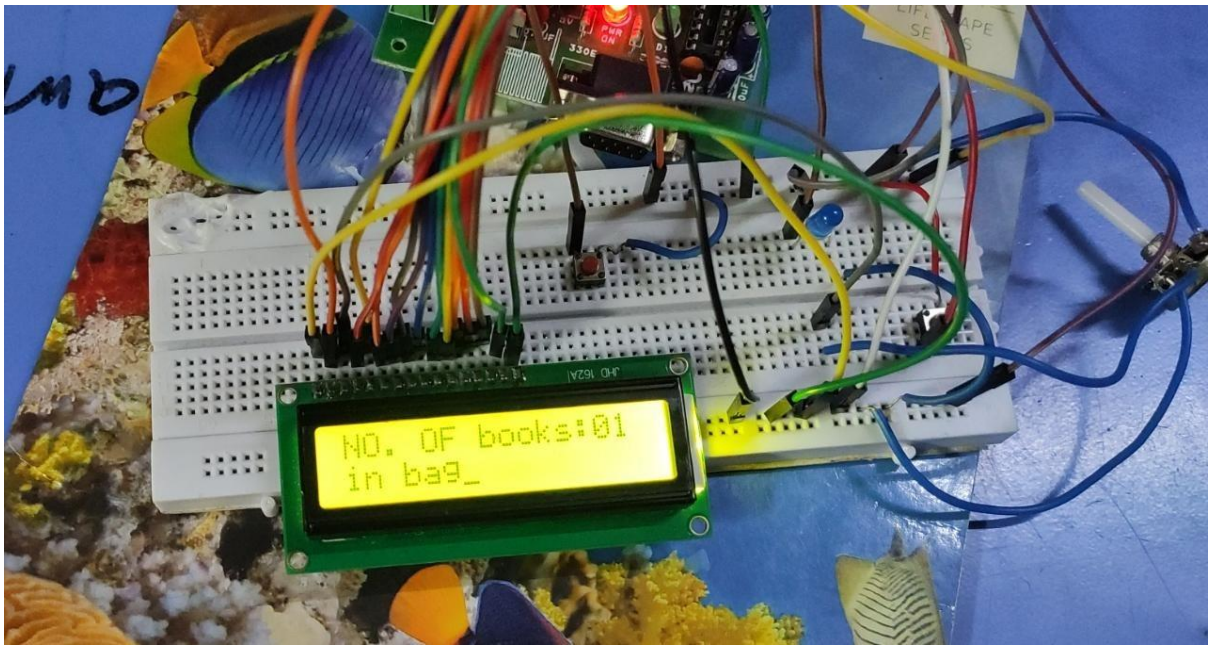
- **LCD:**

A liquid-crystal display (LCD) is a flat-panel display or other electronically modulated optical device that uses the light-modulating properties of liquid crystals. Liquid crystals do not emit light directly, instead using a backlight or reflector to produce images in color or monochrome.[1] LCDs are available to display arbitrary images (as in a general-purpose computer display) or fixed images with low information content, which can be displayed or hidden, such as preset words, digits, and seven-segment displays, as in a digital clock

OUTPUTS IN BOTH PROTEUS AND HARDWARE:

CASE 1: INCREMENT OF BOOKS:

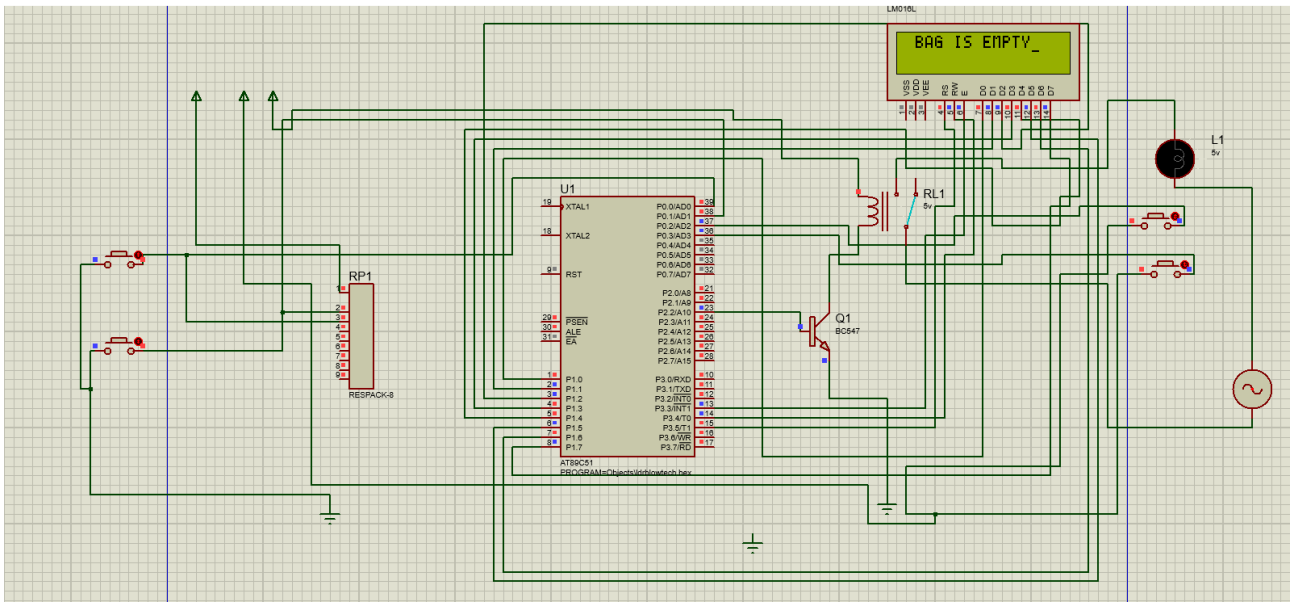


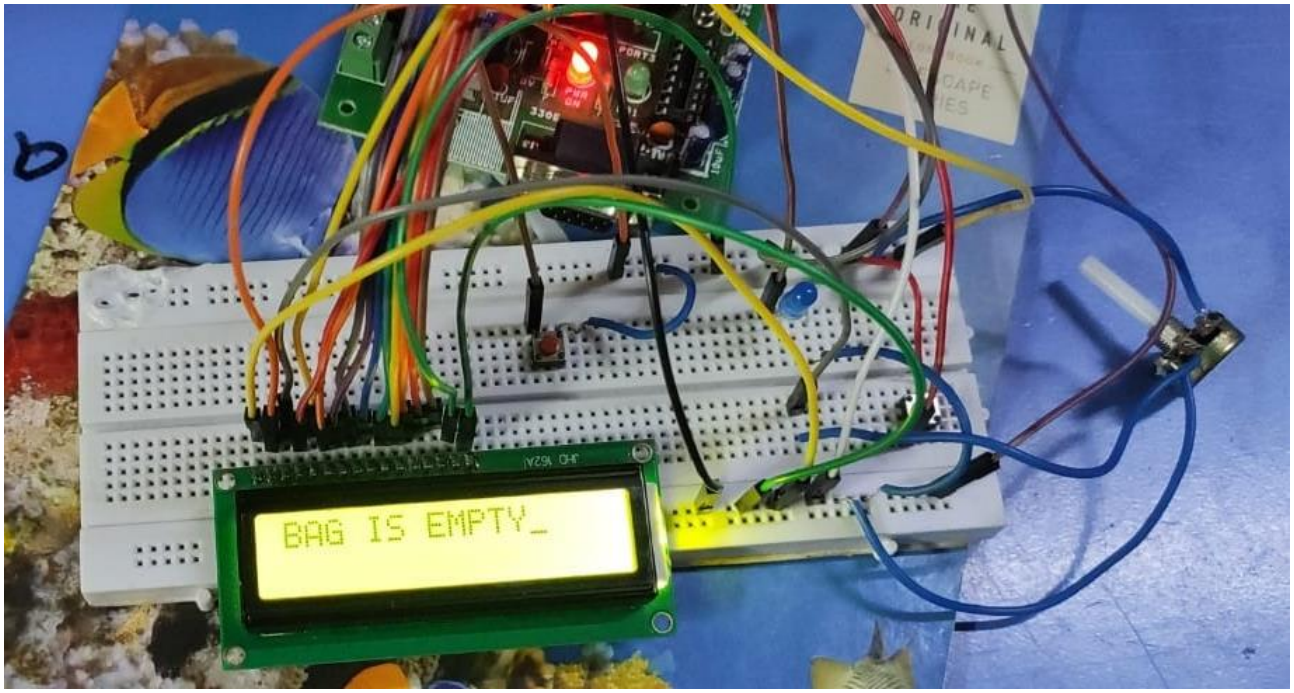


EXPLANATION:

For increment first the IR sensor1 will be detected and then IR sensor2 will be detected then only the book will be increment. IR sensor1 should be placed near the bag zip and IR sensor2 should be placed below the IR sensor1.

CASE 2: DECREMENT OF BOOKS:



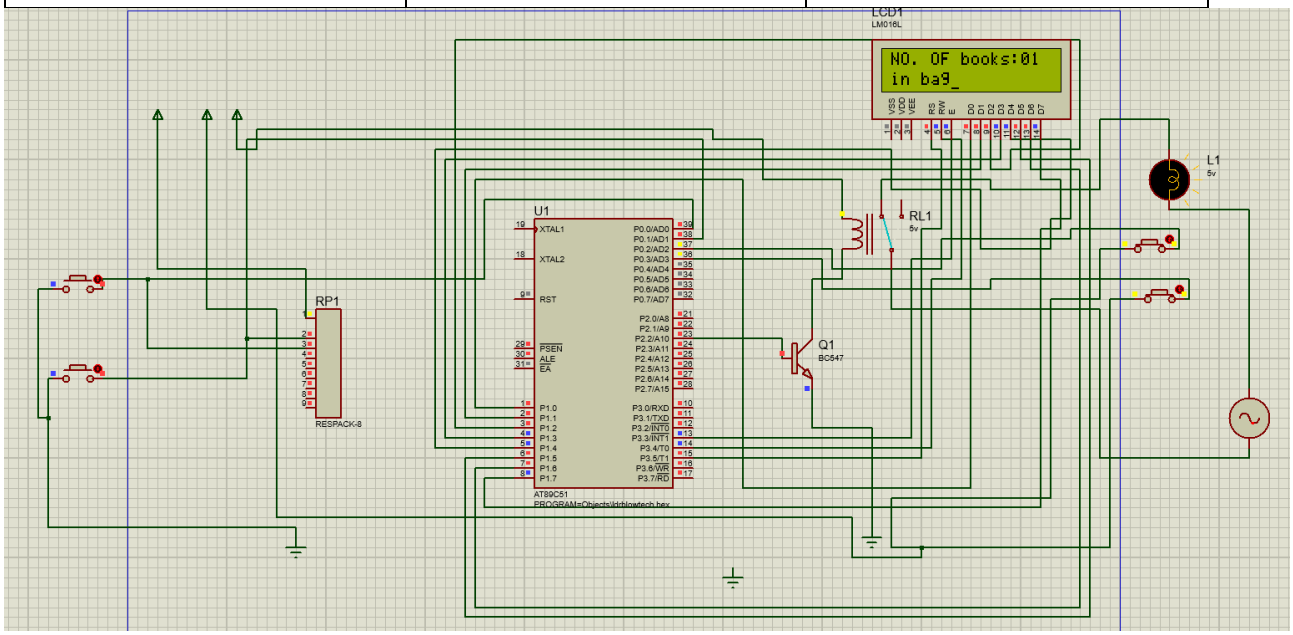


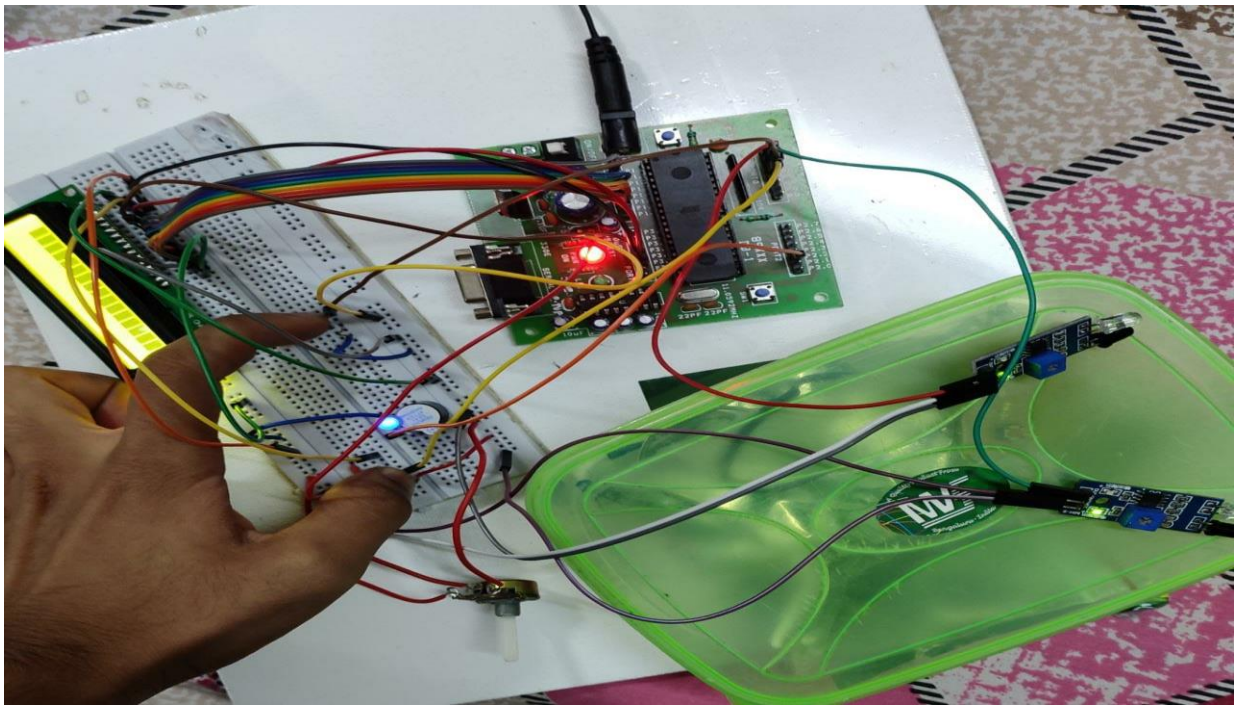
EXPLANATION:

For Decrement first the IR sensor2 will be detected and then IR sensor1 will be detected then only the book will be decrement. IR sensor1 should be placed near the bag zip and IR sensor2 should be placed below the IR sensor1.

CASE3: WHEN ZIP IS OPEN:

Switch(pressure applied when you wear on switch)	**Ir sensor** (IR Sensor detects light)	**Buzzer on**
1	1	1
1	0	0
0	1	0
0	0	0





EXPLANATION for case3:

Buzzer should ring only when we are carrying the bag and also when the zip is opened the truth table explains that. So, we kept the switch on the bag Zip and Ir sensor below the zip inside the bag. When the switch is on and also the Ir sensor detects the light then buzzer or LED will be ON.

CONCLUSION:

We have designed a device which will ring the buzzer only when we are carrying the bag and also when the zip is opened. And also, we have included a LCD which displays the number of books in the Bag.

Our project files google drive links:

PROTEUS LINK:
https://drive.google.com/open?id=1lGYGeOqfCuKjT6o_z6VFKXrINXXILOMg

KEIL LINK:

https://drive.google.com/open?id=1lGYGeOqfCuKjT6o_z6VFKXrINXXILOMg

VIDEO LINK FOR DISPLAYING BOOKS:
https://drive.google.com/file/d/1sdJsbfzGGzSq3CCVxogkWQxfB18VVi2u/view?usp=sharing

VIDEO LINK FOR BAG ZIP:

https://drive.google.com/open?id=1M6lRMPEcKAjlhR1eq-ZpaSYs1HHfIyFJ

CODE:

https://drive.google.com/open?id=1UAbjS4Da2gQs5xdqJypvmrGN4Mhtz16j